WHAT IS CLAIMED IS:

1. A position detection apparatus comprising:

an absolute track composed of a string of a number of micro-sized areas each indicated by a code of [0] and a number of micro-sized areas each indicated by a code of [1], in accordance with a maximum length sequence generated by a degree-n primitive polynominal, n being a natural number not less than 2, said micro-sized areas each indicated by a code of [1] differing in physical properties from said micro-sized areas each indicated by a code of [0]; and

a detection unit for said absolute track movable relative to said absolute track, said detection unit including n heads for said absolute track, arrayed facing said absolute track, for detecting the physical properties of said absolute track; wherein

said n heads for said absolute track are arrayed under a condition satisfying the equations 1 and 2 if n is an even number and under a condition satisfying the equations 1 and 3 if n is an odd number:

$\lambda_1 = m\lambda$, m being an integer not less than 2

$$\cdots(1)$$

$\lambda_1 \neq k(2^{n/2} + 1)\lambda$, k being a natural number

$$\cdots(2)$$

$\lambda_1 \neq k(2^n + 1)\lambda$

$$\cdots(3)$$

where λ is a pitch of said micro-sized areas and λ_1 is the separation between

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neighboring ones of said n heads for said absolute track.

2. The position detection apparatus according to claim 1 wherein the length Lt of said absolute track satisfies the equation 4:

$$Lt > (2^n - 1)\lambda + (n - 1)\lambda_1$$

$$\cdots(4).$$

3. The position detection apparatus according to claim 1 further comprising:

an incremental track having physical properties thereof changed at a constant period; and

a detection unit for said incremental track, including a head for said incremental track, arranged facing said incremental track, for detecting physical properties of said incremental track.